

The structure of the "Global Part Numbers" that have been adopted since June 2001 and the meaning of each code are described herein. If you have any questions about details, inquire at your usual Murata sales office or distributor.

## ● Part Numbering

### Chip Monolithic Ceramic Capacitors

(Global Part Number) 

GR	M	18	8	B1	1H	102	K	A01	K
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#### ① Product ID

#### ② Series

Product ID	Code	Series
<b>GR</b>	<b>M</b>	Tin Plated layer
	<b>P</b>	Soldering Electrode
<b>ER</b>	<b>F</b>	High-frequency and high-power Type
	<b>H</b>	High-frequency and high-power Type (Ribbon Terminal)
	<b>A</b>	High-frequency Type
	<b>D</b>	High-frequency Type (Ribbon Terminal)
<b>GQ</b>	<b>M</b>	High-frequency for Flow/Reflow Soldering
<b>GM</b>	<b>A</b>	Monolithic Microchip
<b>GN</b>	<b>M</b>	Capacitor Array
<b>LL</b>	<b>L</b>	Low ESL Wide-width Type
<b>GJ</b>	<b>6</b>	Low Dissipation
	<b>2</b>	Smoothing Type
<b>GA</b>	<b>2</b>	for AC250V (r.m.s.)
	<b>3</b>	Safety Standard Recognized Type

#### ③ Dimension (L×W)

Code	Dimension (L×W)	EIA
<b>03</b>	0.6×0.3 mm	0201
<b>05</b>	0.5×0.5 mm	0202
<b>08</b>	0.8×0.8 mm	0303
<b>11</b>	1.25×1.0 mm	0504
<b>15</b>	1.0×0.5 mm	0402
<b>18</b>	1.6×0.8 mm	0603
<b>1X</b>	Depends on individual standards.	
<b>21</b>	2.0×1.25 mm	0805
<b>22</b>	2.8×2.8 mm	1111
<b>31</b>	3.2×1.6 mm	1206
<b>32</b>	3.2×2.5 mm	1210
<b>3X</b>	Depends on individual standards.	
<b>42</b>	4.5×2.0 mm	1808
<b>43</b>	4.5×3.2 mm	1812
<b>52</b>	5.7×2.8 mm	2211
<b>55</b>	5.7×5.0 mm	2220

#### ④ Dimension (T)


Code	Dimension (T)
<b>3</b>	0.3 mm
<b>4</b>	4-elements (Array Type)
<b>5</b>	0.5 mm
<b>6</b>	0.6 mm
<b>7</b>	0.7 mm
<b>8</b>	0.8 mm
<b>9</b>	0.85 mm
<b>A</b>	1.0 mm
<b>B</b>	1.25 mm
<b>C</b>	1.6 mm
<b>D</b>	2.0 mm
<b>E</b>	2.5 mm
<b>M</b>	1.15 mm
<b>N</b>	1.35 mm
<b>R</b>	1.8 mm
<b>Q</b>	1.5 mm
<b>X</b>	Depends on individual standards.

With the array type GNM series, "Dimension(T)" indicates the number of elements.

#### ⑤ Temperature Characteristics

Code	Temperature Characteristics	Temperature Range	Cap. Change or Temp. Coeff.
<b>1X</b>	SL	-55 to 125°C	+350 to -1000ppm/°C
<b>5C</b>	C0G	-55 to 125°C	0±30ppm/°C
<b>6C</b>	C0H	-55 to 125°C	0±60ppm/°C
<b>6P</b>	P2H	-55 to 85°C	-150±60ppm/°C
<b>6R</b>	R2H	-55 to 85°C	-220±60ppm/°C
<b>6T</b>	T2H	-55 to 85°C	-470±60ppm/°C
<b>7U</b>	U2J	-55 to 85°C	-750±120ppm/°C
<b>B3</b>	B	-25 to 85°C	±10%
<b>E4</b>	Z5U	10 to 85°C	+22, -82%
<b>F5</b>	Y5V	-30 to 85°C	+22, -82%
<b>R3</b>	R	-55 to 125°C	±15%
<b>R6</b>	X5R	-55 to 85°C	±15%
<b>R7</b>	X7R	-55 to 125°C	±15%

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(Global Part Number) **GR** **M** **18** **8** **B1** **1H** **102** **K** **A01** **K**  
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

#### ⑥ Rated Voltage

Code	Rated Voltage
<b>0J</b>	DC6.3V
<b>1A</b>	DC10V
<b>1C</b>	DC16V
<b>1E</b>	DC25V
<b>1H</b>	DC50V
<b>2A</b>	DC100V
<b>2D</b>	DC200V
<b>2E</b>	DC250V
<b>YD</b>	DC300V
<b>2H</b>	DC500V
<b>2J</b>	DC630V
<b>3A</b>	DC1kV
<b>3D</b>	DC2kV
<b>3F</b>	DC3.15kV
<b>E2</b>	AC250V
<b>GB</b>	X2; AC250V (Safety Standard Recognized Type GB)
<b>GC</b>	X1, Y2; AC250V (Safety Standard Recognized Type GC)
<b>GD</b>	Y3; AC250V (Safety Standard Recognized Type GD)
<b>GF</b>	Y2; AC250V (Safety Standard Recognized Type GF)

#### ⑦ Capacitance

Expressed by three figures. The unit is pico-farad(pF). The first and second figures are significant digits, and the third figure expresses the number of zeros which follow the two numbers. If there is a decimal point, it is expressed by the capital letter "R". In this case, all figures are significant digits.


Ex.)


Code	Capacitance
<b>R50</b>	0.5pF
<b>1R0</b>	1.0pF
<b>100</b>	10pF
<b>103</b>	10000pF

#### ⑧ Capacitance Tolerance

Code	Capacitance Tolerance	TC	Series	Capacitance Step	
B	±0.1pF	CΔ	GJ6,GQM	≤5pF	E24 Series,1pF
C	±0.25pF	CΔ-SL	GRP/GRM/ERF/ERH/ERA/ERD	≤5pF	* 1pF
		CΔ	GJ6,GQM	<10pF	E24 Series,1pF
D	±0.5pF	CΔ-SL	GRP/GRM	6.0 to 9.0pF	* 1pF
		CΔ	ERF/ERH/ERA/ERD	5.1 to 9.1pF	E24 Series
G	±2%	CΔ	GJ6	≥10pF	E12 Series
		CΔ	GQM	≥10pF	E24 Series
J	±5%	CΔ-SL	GRP/GRM	≥10pF	E12 Series
		CΔ	ERF/ERH/ERA/ERD	≥10pF	E24 Series
K	±10%	B,R,X7R,X5R,ZLM	GRP/GRM/GA3	E6 Series	
		B,R,X7R	LLL	E12 Series	
M	±20%	Z5U	GRM	E3 Series	
		B,R,X7R	GMA	E6 Series	
		B	GA2	E3 Series	
Z	+80%, -20%	F,Y5V	GRP/GRM/GJ2	E3 Series	
		F,Y5V,E	LLL	E6 Series	
R	Depends on individual standards.				

\* E24 series is also available.

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(Global Part Number) 

GR	M	18	8	B1	1H	102	K	A01	K
1	2	3	4	5	6	7	8	9	10

9 Individual Specification Code

Code	Individual Specification
A**/B**/C**/W**	Base Metal Inner Electrode
Other than above	Precious Metal Inner Electrode

\* indicates an alphabet or figure.

10 Packaging

Code	Packaging
E	ø178mm 2mm Pitch Paper Taping
F	ø330mm 2mm Pitch Paper Taping
L	ø178mm 4mm Pitch Plastic Taping
D	ø178mm 4mm Pitch Paper Taping
K	ø330mm 4mm Pitch Plastic Taping
J	ø330mm 4mm Pitch Paper Taping
B	Bulk
C	Bulk Case
T	Bulk Tray